			Complete and the state of the s		
<b>T</b>	Online App		Samples sequenced in th		
Tribe	Genus	Species	Race	Label	
Argynnini	Argynnis	paphia		NW76_12	
<b> .</b> ,	Euptoieta	claudia		NW94 15	
	Vindula	arsinoe		NW64 9	
Acraeini	Acraea	encedon		FJ55_3	
	Acraea	encedon		FJ556	
	Acraea	pseudegina		NW116_16	
	Actinote	surima		NW136_19	
	Actinote	stratonice		NW90_14	
incertae sec	di: Cethosia	cyane		NW100_12	
	Cethosia	cydippe		NW137 4	
	Cethosia	myrina		NW106_8	
Heliconiini	Agraulis	vanillae		8554_P	
	Agraulis	vanillae		NW152_16_DR	
	Dione	glycera		PE57_Pe	
	Dione	juno		8727_Pe	
	Dione	moneta		8748a_Pe	
	Dione	moneta		8748b_Pe	
	Dione	moneta		NW2_1_Me	
	Dryadula	phaetusa		2921_P	
	Dryadula	phaetusa		NW108_23	
	Dryas	iulia		293_FG	
	Dryas	iulia		8648_Pe	
	Dryas	iulia		NW108_24_CR	
	Eueides	aliphera		555_P	
	Eueides	aliphera		8594_Pe	
	Eueides	aliphera		875_P	
	Eueides	aliphera		NW126 2 B	
	Eueides	heliconioides	;	8947 Pe	
	Eueides	isabella		780_P	
	Eueides	lampeto		8750_Pe	
	Eueides	lineata		2991_P	
	Eueides	lybia	lybia	8691_Pe	
	Eueides	lybia	,	02_2001_Pe	
	Eueides	lybia		556_P	
	Eueides	pavana		C9_B	
	Eueides	procula		2933_E	
	Eueides	tales		09_256_Pe	
	Eueides	tales		2948_E	
	Eueides	vibilia	unifasciatus	8699_Pe	
	Eueides	vibilia		320_FG	
	Heliconius	antiochus		P326	
	Heliconius	antiochus		antiochus_S	
	Heliconius	atthis		8162_E	
	Heliconius	besckei		besckei_1B	
	Heliconius	besckei		bes110_B	
	Heliconius	burneyi		8560_Pe	
	Heliconius	charithonia		2923_E	
	Heliconius	charithonia		8830_P	

Heliconius	clysonymus		2_C
Heliconius	clysonymus		8037_P
Heliconius	clysonymus		9211_E
Heliconius	congener		9210_E
Heliconius	cydno	cordula	2096_V
Heliconius	cydno	chioneus	553_P
Heliconius	cydno	chioneus	557_P
Heliconius	cydno	cordula	WOM007_C
Heliconius	cydno	weymeri	1690_P
Heliconius	cydno	weymeri	221_C
Heliconius	cydno	alithea	8509_E
Heliconius	demeter		8562_Pe
Heliconius	egeria		MJ4001_FG
Heliconius	eleuchia	eleuchia	190_C
Heliconius	eleuchia		842_P
Heliconius	elevatus		09_270_Pe
Heliconius	elevatus		434_FG
Heliconius	elevatus		503_FG
Heliconius	elevatus		09_163_Pe
Heliconius	erato	chestertonii	WOM0059_C
Heliconius	erato	demphoon	8054_P
Heliconius	erato	emma	NCS1673_Pe
Heliconius	erato	erato	NCS2556_FG
Heliconius	erato	favorinus	GS012_Pe
Heliconius	erato	hydara	440_FG
Heliconius	erato	hydara	NCS_2609_FG
Heliconius	erato	lattivita	WOM03_E
Heliconius	erato	notabilis	BC0140_E
Heliconius	erato	petiverana	618_P
Heliconius	eratosignis		09_256_Pe
Heliconius	ethila		09_67_Pe
Heliconius	ethilla ,	c 1:	3014_A
Heliconius	hecale ,	felix	8682_Pe
Heliconius	hecale ,	melicerta OR	_
Heliconius	hecale ,	zuleika	8100_P
Heliconius	hecale		02_1326_Pe
Heliconius	hecale		261_C
Heliconius	hecale		71_C
Heliconius	hecale		NW70_6
Heliconius	hecale		WOMs5_P
Heliconius	hecalesia		856_P
Heliconius	hecuba		8549_E
Heliconius	hecuba		8550_E
Heliconius	hermathena		94_15_Pe
Heliconius	hermathena	h	C3
Heliconius	heurippa	heurippa	2417_C
Heliconius	heurippa		8_C
Heliconius	heurippa		WOM001_C
Heliconius	hewitsoni		hewitsoni_P
Heliconius	hierax		8149_E
Heliconius	hierax		8154_E
Heliconius	himera		2842_E

		-	
Heliconius	himera		8076_P
Heliconius	hortense		MB9111
Heliconius	ismenius		666_P
Heliconius	leucadia		RB119
Heliconius	melpomene	amandus	2228_Bo
Heliconius	melpomene	cythera	2856_E
Heliconius	melpomene	ecuadoriensis	9111_E
Heliconius	melpomene	malleti	16550_B
Heliconius	melpomene	melpomene	9317_FG
Heliconius	melpomene	melpomene	melpomene_P
Heliconius	melpomene	meriana	13819_FG
Heliconius	melpomene	plesseni	9156_E
Heliconius	melpomene	rosina	546_P
Heliconius	melpomene	rosina	811_P
Heliconius	melpomene	rosina	845_P
Heliconius	melpomene	vulcanus	519_C
Heliconius	nattereri		C2_B
Heliconius	numata	aurora	o203_m05_Pe
Heliconius	numata		346_FG
Heliconius	pachinus		3023_P
Heliconius	pachinus		3035_P
Heliconius	pardalinus	butleri	09_372_Pe
Heliconius	pardalinus	butleri	MJ2021
Heliconius	pardalinus	sergestus	09_200_Pe
Heliconius	pardalinus	sergestus	09_202_Pe
Heliconius	pardalinus	ssp.nov.	09_371_Pe
Heliconius	peruvianus		EC190_E
Heliconius	peruvianus		EC288_E
Heliconius	ricini		1180_FG
Heliconius	sapho	sapho	260_C
Heliconius	sapho		2739_P
Heliconius	sapho		8126_E
Heliconius	sara	sara	8571_Pe
Heliconius	sara		8211_FG
Heliconius	sara		850_P
Heliconius	sara		8862_P
Heliconius	telesiphe		16722_E
Heliconius	telesiphe		8525_E
Heliconius	timareta	thelxinoe	09_57_Pe
Heliconius	timareta	timareta	9178_E
Heliconius	timareta		8520_E
Heliconius	timareta		9223_Pe
Heliconius	tristero	<b></b>	C15_C
Heliconius	wallacei	flavescens	8132_E
Heliconius	wallacei	flavescens	8687_Pe
Heliconius	wallacei		04_200_Pe
Heliconius	wallacei		286_FG
Heliconius	xanthocles	mellitus	8758_Pe
Heliconius	xanthocles		8609_Pe
Heliconius	xanthocles		9106_E
Heliconius	doris	delila	8697_Pe
Heliconius	doris	doris	8684_Pe

	Heliconius Heliconius Heliconius Heliconius Heliconius Heliconius Heliconius Heliconius Heliconius Philaethria Philaethria Philaethria Podotricha	aoede aoede aoede aoede metharme diatonica diatonica dido		02_1939_Pe 846_P 847_P 8645_Pe 09_347_Pe 8198_FG 8569_Pe 8572_Pe 2949_E 8749a_Pe 8749b_Pe 8700_Pe NW126_5_B 8146_E
<b>Historical s</b>	pecimens:	•		
Heliconiini	Podotricha Philaethria Philaethria Philaethria Philaethria Philaethria Eueides Eueides Eueides Eueides Heliconius Heliconius Heliconius	judith (euchi pygmalion pygmalion constantinoi neildi ostara procula procula procula godmani astraea luciana	edias browni browni browni	NHM808498_C MCZ115413_B MCZ115415_B MG4062_E AN4_V MG4260_E AN6_V AN7_V AN8_V AN9_V Vienna_C MCZ116526_B AN2_V AN3_V

#### Abbreviations:

BGG=Butterfly Genetics Group (C. Jiggins Lab)

NSG=Nymphalidae Systematics Group (N. Wahlberg Lab)

MCZ=Harvard Museum of Comparative Zoology

NHM=Natural History Museum, London

NHMW=Naturhistorisches Museum Wien

McGuire=McGuire Center for Lepidoptera and Biodiversity

dy with GenBank Acc	cession Numbers.		
Country	Locality	Collection	# loci seque
	Samples sequenced		
	Proportion sequenced		
Sweden	Stockholmslaen	NSG	
USA		NSG	
Australia	Cairns, Queensland	NSG	
Kenya	insectary, Kampala	F. Jiggins	22
Kenya	insectary, Kampala	F. Jiggins	8
Uganda		NSG	10
Brazil	Sao Paolo, Alto da Serra	NSG	8
Ecuador	La Bonita, Sucumbios	NSG	10
Bangladesh	Sylhet Div., Lowacherra Fo	re NSG	11
Australia	Cairns, Queensland	NSG	3
Indonesia	Sulawesi	NSG	3
Panama		BGG	13
Dominican Republic	Playa Long Beach, Puerto F	PlaNSG	8
Peru	, 5 ,	Mallet Lab	2
Peru	San Martin	BGG	13
Peru	Tarapoto, San Martin	BGG	13
Peru	Tarapoto, San Martin	BGG	13
Mexico		NSG	10
Panama	Panama City	BGG	22
unknown	insectary	NSG	5
French Guyana	Cayenne	BGG	14
Peru	Tarapoto, San Martin	BGG	16
Costa Rica		NSG	10
Panama	Pipeline Road, Colon	BGG	17
Peru	Pongo de Cainarache-Bara		10
Panama	Gamboa, Colon	BGG	12
Brazil	Etibaia, Sao Paolo	NSG	8
Peru	Lubaia, Sao Faoio	BGG	2
Panama	Pipeline Road, Colon	BGG	11
Peru	San Martin	BGG	15
Panama		BGG	16
Peru	Chiriqui		10
	Pongo de Cainarache – Bar		
Peru	Tarapoto, San Martin	Mallet Lab	22
Panama	Pipeline Road, Colon	BGG Mallet Lab	15
Brazil		Mallet Lab	2
Ecuador	Tauranta Can Mautin	BGG Mallat Lab	2
Peru	Tarapoto, San Martin	Mallet Lab	22
Ecuador	Yasuni, Napo	BGG	2
Peru	Tarapoto, San Martin	BGG	9
French Guyana	Kaw Mountains	BGG	19
Panama		Mallet Lab	3
Suriname	insectary	BGG	5
Ecuador	Pichincha	BGG	19
Brazil		Mallet Lab	3
Brazil		Kronforst La	
Peru	Tunel Cumbre, San Martin	BGG	22
Ecuador	Zamora-Chinchipe	BGG	1
Panama	Cerro Pirre, Cana, Darien	BGG	22

Colombia	Virgen de Chirajara, Cundin	aMallet Lab	18
Panama	Sta Clara, Chiriqui	BGG	19
Ecuador	El Topo, Tungurahua	BGG	22
Ecuador	El Topo, Tungurahua	BGG	19
Venezuela	· · · · · ·	BGG	19
	San Cristobal, Merida		
Panama	Pipeline Road, Colon	BGG	8
Panama	insectary	BGG	19
Colombia		McMillan Lab	22
Panama	Pipeline Road, Colon	BGG	22
Colombia	El Saladito, Valle del Cauca	BGG	13
Ecuador	Mindo-Cinto Rd, Pichincha	BGG	22
Peru	Tarapoto, San Martin	BGG	22
	Kaw Mountains		19
French Guyana		Joron Lab	
Colombia	Yotoco, Valle del Cauca	BGG	15
Panama	Pipeline Road, Colon	BGG	19
Peru	Tarapoto, San Martin	Mallet Lab	22
French Guyana	Kaw Mountains	BGG	16
French Guyana	Kaw Mountains	BGG	9
Peru	Tarapoto, San Martin	Mallet Lab	22
Colombia	,	McMillan Lab	22
Panama	Bocas del Toro	BGG	12
Peru	2000 001 1010	McMillan Lab	22
		McMillan Lab	22
French Guyana			
Peru		Countermanr	22
French Guyana	Sablance	BGG	20
French Guyana		McMillan Lab	22
Ecuador		McMillan Lab	22
Ecuador		Countermanr	22
Panama	Pipeline Road, Colon	BGG	22
Peru	Tarapoto, San Martin	Mallet Lab	22
Peru	Tarapoto, San Martin	Mallet Lab	22
Argentina	Iguacu Falls	BGG	21
Peru	Pongo de Cainarache – Bara		12
			18
Panama	Pipeline Road, Colon	BGG	
Panama	Bocas del Toro	BGG	12
Peru	Tarapoto, San Martin	Mallet Lab	22
Colombia	Mariquita Reserve, Tolima	BGG	13
Colombia	La Gloria, Valle del Cauca	BGG	14
unknown	insectary	NSG	11
Panama	·	McMillan Lab	22
Panama	Colon	BGG	18
Ecuador		BGG	16
Ecuador		BGG	22
Brazil		Mallet Lab	
			22
Colombia?	5	Mallet Lab	2
Colombia	Buenavista, Meta	BGG	18
Colombia	Cudinamarca	BGG	19
Colombia		McMillan Lab	22
Panama		Mallet Lab	3
Ecuador	Rio Quijos, Napo	BGG	22
Ecuador	Napo	BGG	20
Ecuador	Catamayo	BGG	3
	/ -	-	-

Panama	Chiriqui Grande-Almirante R	RGG	20
unknown		Mallet Lab	2
Panama	Pipeline Road, Colon	BGG	16
unknown		Mallet Lab	3
Bolivia	insectary	BGG	22
Ecuador	Alluriquin, Pichincha	BGG	22
Ecuador	Zamora	BGG	19
Brazil	Central Amazon basin	BGG	22
French Guyana		BGG	22
Panama	Darien	BGG	22
French Guyana	Maripasoula	BGG	22
Ecuador	El Topo, Tungurahua	BGG	22
Panama	Pipeline Road, Colon	BGG	22
Panama	Pipeline Road, Colon	BGG	20
Panama	Pipeline Road, Colon	BGG	15
Colombia	Western Andes	BGG	22
Brazil	South-East coast	Mallet Lab	2
Peru	Tarapoto, San Martin	Joron Lab	7
French Guyana	Cayenne	BGG	19
Panama	St Clara, Café Duran, Chiriq		21
Panama	St Clara, Café Duran, Chiriq		22
Peru	Tarapoto, San Martin	Mallet Lab	22
Peru	T	Joron Lab	16
Peru	Tarapoto, San Martin	Mallet Lab	22
Peru	Tarapoto, San Martin	Mallet Lab	23
Peru	Tarapoto, San Martin	Mallet Lab	22
Ecuador		BGG	2
Ecuador	Die Commte	BGG	2
French Guyana	Rio Compte	BGG	19
Colombia	Mariquita Reserve, Tolima	BGG	22
Panama	Pipeline Road	BGG	17 12
Ecuador	Pedro Maldonado, Pichincha		
Peru	Tarapoto, San Martin	BGG	13
French Guyana	Pointe Macouria	BGG	13
Panama	Pipeline Road, Colon	BGG	21
Panama	Cana, Darien	BGG	22
Ecuador	El Topo, Tungurahua	BGG	22
Ecuador	El Topo, Tungurahua	BGG	20
Peru	Tarapoto, San Martin	BGG	22
Ecuador	El Topo, Tungurahua	BGG	22
Ecuador	El Topo, Tungurahua	BGG	21
Peru Colombia	Rio Anso, near Mera Mocoa	BGG Brower Lab	22 2
Ecuador		BGG	13
Peru	Jatun Sacha, Napo		22
	Pongo de Cainarache – Bara		
Peru	Tarapoto, San Martin	Mallet Lab	22
French Guyana	Cayenne	BGG	20
Peru	Puente Agua Verdes, San M		12
Peru	San Martin	BGG	20
Ecuador	Zamora-Chinchipe Rd	BGG	15
Peru	Tarapoto-Yurimaguas Rd, Sa		22
Peru	Pongo de Cainarache – Bara	UDUU	22

Peru	Tarapoto, San Martin	Mallet Lab	22
Panama	Pipeline Road, Colon	BGG	19
Panama	Pipeline Road, Colon	BGG	14
Peru	San Martin	BGG	18
Peru	Tarapoto, San Martin	Mallet Lab	22
French Guyana	Savane du Galion	BGG	18
Peru	San Martin	BGG	19
Peru	San Martin	BGG	18
Ecuador	Napo	BGG	17
Peru	Puente Agua Verdes, San Ma	BGG	12
Peru	Puente Agua Verdes, San Ma	BGG	11
Peru	San Martin	BGG	14
Brazil	Atibaia, Sao Paolo	NSG	10
Ecuador	Napo	BGG	17
Colombia	Andes	NHM	2
Brazil	?	MCZ	1
Brazil	?	MCZ	1
Ecuador	Puyo-Tena Rd, Pastaza	McGuire	2
Venezuela	?	A. Neild	2
Ecuador	El Durango, Esmeraldas		
	El Balango, Esincialdas	McGuire	2
Venezuela	?	A. Neild	2
Venezuela Venezuela			
	?	A. Neild	2
Venezuela	?	A. Neild A. Neild	2 2
Venezuela Venezuela	? ? ?	A. Neild A. Neild A. Neild	2 2 2
Venezuela Venezuela Venezuela	? ? ?	A. Neild A. Neild A. Neild A. Neild	2 2 2 2
Venezuela Venezuela Venezuela Colombia	? ? ? West	A. Neild A. Neild A. Neild A. Neild NHMW	2 2 2 2 2

Technology	Sequence	d ∣ <i>coxI/II</i>	16S	aact	argK	
	Joquence	- 100A1/ II	176	120	98	126
		(	0.98	0.67	0.54	0.70
Sanger	GenBank	X		0.07	X	
Sanger	GenBank	X			X	
Sanger	GenBank	X			X	
Illumina	Ferguson	X	X	X	X	
Sanger	BGG	X			X	
Sanger	GenBank	X	X			
Sanger	GenBank	X				
Sanger	GenBank	X			X	
Sanger	BGG	Х				
Sanger	GenBank	X				
Sanger	GenBank	X				
Sanger	BGG	Х	Х		Х	
Sanger	GenBank	X				
Sanger	GenBank	X				
Sanger	BGG	X	X			
Sanger	BGG	X	X		X	
Sanger	BGG	X	X		X	
Sanger	BGG	X	Α		X	
Illumina	Ferguson	X	X	x	X	
Sanger	GenBank	X	Α	^	~	
Sanger	BGG	X	X		x	
Sanger	BGG	X	X		×	
Sanger	GenBank	X	χ		X	
Sanger	BGG	X	X		×	
_	BGG					
Sanger	BGG	X	X		X	
Sanger	GenBank	X	X		X	
Sanger	BGG	X				
Sanger	BGG	X			V	
Sanger		X	v		X	
Sanger	BGG	X	X	v	X	
Sanger	BGG	X	X	X	X	
Sanger	BGG Mallet	X	X	.,		
Illumina	Mallet BGG	X	X	X	X	
Sanger		X			X	
Sanger	GenBank	X				
Sanger	BGG	X				
Illumina	Mallet	X	X	X	X	
Sanger	BGG	X				
Sanger	BGG	X	X			
Sanger	BGG	X	X	X	X	
Sanger	GenBank	X				
Sanger	BGG	X	X			
Sanger	BGG	X	X	X	X	
Sanger	GenBank	X				
Illumina	Kronforst	X	X	X	X	
Illumina/Sanger		X	X	X	X	
Sanger	BGG	X				
Illumina	Ferguson	X	X	X	X	

			Samples		
Sanger	BGG		X	X	x
Sanger	BGG	×	X	X	X
Illumina	BGG	X	X	X	X
Sanger	BGG	X	X	X	X
Sanger	BGG	X	X	X	X
Illumina/Sanger		X	X	^	X
Sanger	BGG	X	X	X	X
Illumina	McMillan	X	X	X	X
Illumina	BGG	X	X	X	X
Sanger	BGG	X	^	^	X
Illumina	BGG	X	X	Х	X
Illumina	Ferguson	X	X	X	X
Sanger	BGG	X	X	X	X
Sanger	BGG	X	X	X	^
Sanger	BGG	X	X	X	Х
Illumina	Mallet	X	X	X	X
Sanger	BGG	X	^	X	^
Sanger	BGG	X		^	
Illumina	Mallet	X	x	x	х
Illumina	McMillan	X	X	X	X
Sanger	BGG	X	^	^	X
Illumina	McMillan	X	x	x	X
Illumina	McMillan	X	X	X	X
Illumina	Countermann		X	X	X
Sanger	BGG	X	X	X	X
Illumina	Mallet	X	X	X	X
Illumina	Mallet	X	X	X	X
Illumina	Counterman		X		
Illumina	BGG	X	X	X X	X X
Illumina	Mallet	X	X	X	X
Illumina	Mallet	X	X	X	X
Sanger	BGG	X	X	X	X
Sanger	BGG			^	
Sanger	BGG	X	X	X	X X
Sanger	BGG	X	^	^	X
Illumina	Mallet	X	X	X	X
Sanger	BGG	X	^	^	X
Sanger	BGG	X			X
Sanger	GenBank	X			X
Illumina	McMillan	X	X	X	X
Sanger	BGG	X	X	X	X
Sanger	BGG	X	X	X	X
Illumina	Mallet	X	X	X	X
Illumina	Mallet	X	X	X	X
Sanger	GenBank	X	^	^	^
Sanger	BGG	X	X	X	х
Sanger	BGG	X	X	X	
Illumina	McMillan	X	X	X	X X
Sanger	GenBank	X	^	^	^
Illumina/Sanger		X	<b>v</b>	v	v
Sanger	BGG	X	X X	X X	X X
Sanger	BGG	X	^	^	^
Juligel	500	^			

Sanger **BGG** Х Х Х Х Sanger GenBank Х Sanger **BGG** Х Х Х GenBank Sanger Х Illumina/Sanger Mallet Х Х Х Х Illumina Mallet Χ Х Χ Χ Sanger **BGG** Х Х Χ Χ Illumina Mallet Х Х Х Х Illumina/Sanger BGG Х Х Χ Χ Illumina **HGC** Χ Х Χ Χ Illumina Mallet Х Х Х Х Illumina/Sanger BGG Х Х Х Х Illumina/Sanger BGG Х Х Х Х Sanger **BGG** Х Х Χ Sanger **BGG** Х Χ Х Χ Illumina Mallet Х Х Χ Х Sanger GenBank Х Sanger GenBank Χ Sanger **BGG** Х Х Х Х Sanger **BGG** Х Х Χ Χ Illumina Mallet Х Х Х Х Illumina Mallet Х Х Χ Χ Sanger **BGG** Х Χ Χ Х Illumina Mallet Х Х Х Х Illumina Mallet Х Х Χ Χ Illumina Mallet Χ Х Х Х Sanger GenBank Х Χ Х Sanger GenBank Х Sanger **BGG** Х Х Х Х Illumina Ferguson Х Х Χ Х Sanger **BGG** Χ Х Х Sanger **BGG** Х Х Χ Sanger **BGG** Х Х Х Sanger **BGG** Х Х Х Sanger **BGG** Х Х Χ Χ Illumina Ferguson Х Х Χ Х Illumina **BGG** Χ Χ Χ Х Sanger **BGG** Х Х Χ Illumina Mallet Х Х Х Х Illumina/Sanger Mallet Х Х Χ Χ Sanger **BGG** Χ Х Χ Χ Illumina **BGG** Х Х Χ Х Sanger GenBank Х Sanger **BGG** Х Х Х Illumina/Sanger Mallet Х Х Х Х Illumina Mallet Х Х Х Х Sanger **BGG** Х Х Χ Х Sanger **BGG** Х Х **BGG** Sanger Х Х Х Х Illumina/Sanger BGG Х Х Illumina/Sanger Mallet Х Х Χ Х Illumina/Sanger Mallet Х Х Χ Х

Illumina Mallet x x x x x x x x x x x x x x x x x x x				Samples	S	
Sanger BGG X X X X X X X X X X X X X X X X X X	Illumina	Mallet	X	_		x
Sanger BGG X X X X X X X X X X X X X X X X X X						
Sanger BGG x x x x x x x x x x x x x x x x x x	_	BGG	×			X
Sanger BGG X X X X X X X X X X X X X X X X X X	_	BGG	x	X	X	X
Sanger BGG X X X X X X X X X X X X X X X X X X	Illumina	Mallet	X	X	X	X
Sanger BGG X X X X X X X X X X X X X X X X X X	Sanger	BGG	X	X	X	X
Sanger BGG X X X X X X X Sanger BGG X X X X X X X X X X X X X X X X X X	Sanger	BGG	X	X	X	X
Sanger BGG X X X X X X X X X X X X X X X X X X	Sanger	BGG	X	X	X	X
Sanger BGG X	Sanger	BGG	X	X	X	X
Sanger BGG X X X X X Sanger BGG X X X X X X X X X X X X X X X X X X	Sanger	BGG	X	X		X
Sanger BGG X X X X  Sanger BGG X X X  Sanger BGG X X  Sanger BGG X	Sanger	BGG	X			
Sanger BGG x x x x x x  Sanger BGG x	Sanger	BGG	X	X		X
Sanger BGG x	Sanger	BGG	X			X
Sanger BGG x	Sanger	BGG	X	X		X
Sanger BGG x						
Sanger BGG x	Sanger		X			
Sanger BGG x	Sanger		X			
Sanger BGG x	Sanger	BGG	X			
Sanger BGG x	Sanger	BGG	X			
Sanger BGG x	Sanger	BGG	X			
Sanger BGG x	Sanger	BGG	X			
Sanger BGG x	Sanger	BGG	X			
Sanger BGG x Sanger BGG x Sanger BGG x Sanger BGG x	Sanger	BGG	X			
Sanger BGG x Sanger BGG x Sanger BGG x	Sanger	BGG	X			
Sanger BGG x	Sanger		X			
Sanger BGG x	Sanger		X			
	Sanger	BGG				
Sanger BGG x	Sanger	BGG	X			
	Sanger	BGG	Χ			

cad	cat	cmdh	ddc	dpp	ef1a	gap	
	114	98	138	96	105	168	121
	0.63	0.54	0.77	0.53	0.58	0.93	0.67
X		Х			Х	Х	
X		X			X	X	
X		X			X	X	
x	Х	Х	Х	Х	Х	Х	
		X			X		
X					X		
X		X			X		
X		X	X		X		
X		Х			Х	Х	
					X		
					X		
	Х	Х			Х	Х	
X		X			X		
	X	X			X	X	
		X			X	×	
	X	X			X	X	
X		X			X	×	
Х	X	X	x	x	X	×	
					×	×	
X		X		X	x	×	
X	x	X	x		x	Х	
X		×			×	Х	
	X	×			×	X	
		×		Х	X	,	
		×		^	X	Х	
v		×			X	^	
X		^					
x		V		V	X	v	
		X		X	X	X	
X		X		X	X	X	
		X		X	X	X	
v		X		X	X		
X	X	X	Х	X	X	X	
Х				X	X	Х	
					X		
v		V		v	X		
X	X	X	Χ	Χ	X	X	
		.,			X		
		X			X		
X		X	X	X	×	Х	
					X		
				X			
X		X	X		X	X	
					X		
X	X	X	X	X	X	X	
X	X	X	X	X	X	X	
X	X	X	X	X	X	X	

Page 13

Samples Χ Х Х Χ Х Χ Χ Х Χ Х Х Х Χ Х Χ Χ Χ Χ Χ Χ Χ Х Х Χ Χ Х Χ Χ Χ Χ Χ Χ Х Х Х Х Χ Χ Χ Х Χ Х Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Х Χ Х Х Χ Χ Х Х Χ Х Х Χ Χ Х Χ Χ Χ Χ Χ Χ Х Х Χ Χ Х Х Χ Х Χ Х Х Χ Χ Χ Χ Χ Χ Χ Χ х Х Х х Χ Х Х Χ Х Χ Χ Χ Χ Χ Χ Χ Х Χ Х Χ Х Χ Х Χ Χ Χ Х Х Χ Χ Χ Х Χ Х Χ Х Χ Χ Χ Χ Х Χ Х Х Х Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Х Χ Χ Х Χ Х Χ Χ Χ Х Х Х Х Χ Χ Χ Х Χ Χ Χ Χ Χ Χ Χ Х Х Χ Х Χ Χ Х Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Х Х Х Χ Χ Χ Χ Χ Χ Χ Х Х Х Χ Χ Χ Χ Χ Χ Χ Х Х Χ Х Х Х Χ Χ Х Χ Х Χ Х Χ Χ Х Χ Χ Χ Χ Χ Χ Х Χ Χ Χ Χ Χ Χ Х Χ Χ Χ Х Χ Х Χ Χ Χ Χ Χ Х Χ Χ Χ Х Х Х Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Х Х Χ Χ Χ Х Χ Χ Χ Х Χ Χ Χ Χ Χ

Х

Х

			-			
Χ	x	x	x	x	x	X
					X	
X	X	X	X	X	X	
X	X	X	X	X	X X	~
X	X	X	X	X	X	X X
X	X	X	×	X	^	X
X	X	X	X	X	X	X
X	x	X	X	X	X	X
X	x	x	x	X	X	Х
X	X	X	X	X	X	Х
X	X	X	X	X	X	Х
X	X	X	X	X	X	Χ
X	X	X	X	X	X	Χ
X	X	X			X	Χ
X	X	X	X	X	X	X
					X	
	X	X				
X	x		X	X	X	X
X	V	X	X X	X	X X	X
X X	X X	x x	X	X X	X	X X
X	^	X	^	^	X	X
X	X	X	x	X	X	X
X	X	X	X	X	X	X
x	×	X	x	X	x	Х
X					X	
					X	
X	X	X	X	X	X	Χ
X	X	X	X	X	X	Χ
X		X	X	X	X	X
		X		X	X	
		X		X	X	
		X		X	X	
X	X	X	X	X	X	X
X	X	X	X	X	X	X
X X						
X	X	X	X	X	X	X
X	X	X	X	X	X	X
X	×	X	X	X	X	X
×	x	X	x	X	x	х
		X		X	X	
X	x	X	X	X	X	X
X	X	X	X	X	X	X
X	X	X	X	X	X	X
		x		X	X	
X	X	X	X	X	X	X
	X	X	X	X	X	Х
X	X	X	X	X	X	X
X	X	X	X	X	X	Χ

Page 15

Sam	ples
Sam	$o_{1}c_{2}$

X	X	X	X	X	X	X	
Χ	X	X	X	X	X	X	
		X		X	X	X	
Χ	X	X	X		X	X	
Χ	X	X	X	X	X	X	
X	X	X	X		X	X	
Χ	X	X		X	X	X	
Χ	X	X	X		X	X	
		X	X	X	X	X	
f		X			X		
		X		X	X	X	
X		X	X		X	X	
X					X	X	
Х	X	X	X	X	X		

x x x x x x x x x

Х

gts		hsp40		lam	rps2	rps5	
10		72	111	141	82	138	99
0.6	51	0.40	0.62	0.78	0.46	0.77	0.55
			X		X	Х	
			X		X	X	
			X		X	X	
X	Χ	X	X	X	X	X	
			X		X		
			X		X	X	
			X		X	X	
			X		X	X	
			X		X	Х	
			X		X	X	
			X		X	X	
		X	X		X		
		X	X		X	X	
		X	X		X		
			X		X	X	
Χ	X	X	X	X	X	X	
						X	
			X		X		
			X		X	X	
			X		X	X	
X	Χ	X	X		X	X	
			X		X		
			X		X	X	
			X		X	X	
			X		×		
X			X		×	x	
	X		Х	X	X	X	
Χ			X				
X	X	X	X	X	X	X	
X			X	X	X	X	
X	X	X	Х	Х	X	X	
X			X		X		
X			X	X	X	X	
					x		
X	X	X	X		X	X	
X	x	Х	Х	Х	X	X	
X	X	X	X	Х	X	X	
X	X	x	X	x	x	x	

Page 17

				-		
Χ	X	X	X		X	
X		X	x		X	
X	X	X	×	x	×	х
X	X	X	×	,	×	
X	X	X	×	×	×	
^	Α	^	^	^	X	X
х	X	x	X	×	X	X
X	X		X	X	X	×
		X	X			
X	X	X		X X	X X	X
X	V	X	X			v
X	X	X	X	X	X	X
X	X	X	X	X	X	X
X	X	X	Χ		×	
X		X		X		
X		X	X		×	X
X	X	X	×	X	X	Х
Χ		X	X		X	
			X		X	Х
Χ	X	X	X	X	X	Х
Χ	Χ	X	X	X	X	Х
Χ		X	X	X	X	
Χ	Χ	X	X	X	X	Х
Χ	Χ	X	X	X	X	Х
Χ	Χ	X	X	X	X	Х
Χ		X	X		X	X
Χ	X	X	X	X	X	X
Χ	X	X	X	X	X	X
Χ	X	X	X	X	X	X
Χ	X	X	X	X	X	X
Χ	X	X	X	X	X	X
Χ	X	X	X	X	X	X
Χ	X	X	X	X	X	
Χ		X	X		X	
Χ		X	X	X	X	
Χ		X	X	X		
Χ	X	X	X	X	X	X
Χ			X	X	X	Х
X		X	X		X	Х
			X		X	X
X	X	X	X	X	X	Х
Χ		X	X	X	X	
Χ		X	X		X	
Χ	X	X	X	X	X	X
Χ	X	X	X	X	X	Х
Х	X	X	x	X		
Х		X	x		X	
Х	X	X	x	X	X	Х
X	X	x	×	X	×	х
X		X	X	X	×	

Samples х Χ Х Х Х Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Х Х Х Χ Х Χ Х Х Χ Х Х Χ Х Х Χ Χ Х Χ Χ Χ Χ Χ Χ Х Χ Χ Χ Χ Χ Χ Χ Χ Χ Х Χ Χ Χ Χ Х Χ х Χ Х Χ Х Х Χ Χ Χ Χ Χ Χ Χ Χ Х Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Х Χ Х Χ Х Χ Χ Χ Χ Χ Х X Χ Χ Χ Χ Χ Χ Х Х Χ Χ Χ Х Χ X Х Χ Χ Χ Χ X Χ Χ Χ Χ Х Χ Χ Х Χ Χ Χ Х Χ Χ Χ Χ Χ Χ Χ Χ Х Χ Х Χ Χ Χ Χ X Χ Х Χ Χ Χ Χ Χ Х Χ Χ Χ Χ Χ Х Χ Χ Χ Χ Х Χ Х X Χ Χ Χ Χ Χ X Χ Χ Χ Χ Χ Χ Х Х Χ Х Х Χ Х Х Χ Х Х Х Χ X Χ Χ Χ Χ Х Х Х Χ Х Χ Χ Χ Х Χ Χ Χ Χ Χ Χ Х Χ Х Χ Χ Х Х Χ Х Χ Х Х Χ Χ Х Х Χ Х Χ Χ Χ Χ Χ Χ Χ Χ Х Х Χ Χ Х Х Χ Χ Χ Х Χ Х Х Χ X Χ Χ Х Χ Χ Χ Χ Χ Χ Χ Χ Х Χ Χ Χ Χ Χ Χ

Page 19

				Samples			
X	X	x	×	x	x	x	
X		X	X		X	X	
Χ		X	X		X		
X			X		X	X	
Χ	X	X	X	X	X	X	
		X	X		X	X	
X	X	X	X		X		
		X	X		X	X	
		X	X		X	X	
			X		X		
		X	X		X		
			X		X		
			X		X	X	
			V	V	V	V	

tada3	trh	vas	wg	
-	128	121	123	133
	0.71	0.67	0.68	0.74
			Х	
			X	
-			X	
X	Х	X	Х	
X	X			
X	X		X	
			X	
			X	
X	X		Х	
			X	
			X	
	X	×	X	
			X	
V			X	
X	X	X	X	
	X	X	X	
	X	X	X	
V	V	V	X	
X	X	X	X X	
V	V	V		
X X	x x	X X	x x	
^	^	^	X	
x	X	Х	X	
	^		^	
X		X X	V	
X		Α	x x	
			^	
X			X	
X	X	×	^	
X	~	×	X	
X	X	×	^	
X	X	×	X	
X	X	X	×	
X	X	x	x	
X		x		
X	X	x	x	
			x	
X				
X	x	x	x	
			x	
X	X	X	X	
X	x	X	X	
X	X	X	X	

			Samples
X		×	x
X	X	×	X
X	X	×	X
X	X	X	X
X	X	X	
	X		X
X	X		X
X	X	X	X
X	X	X	X
X	X	X	
X	X	X	X
X	X	X	X
X	X	X	X
X		X	X
X	X	X	X
X	X	X	X
X	X	X	X
	X		X
X	X	X	X
x	×	x	X
X	^	X	^
X	X	X	x
X	X	×	X
		×	
X	X		X
X	X	X	X
X	X	X	X
X	X	X	X
X	X	X	X
X	X	X	X
X	X	X	X
X	X	X	X
X	X	X	X
X	X	X	
X	X	X	X
X	X	X	
X	X	X	X
X	X	X	
X	X	X	
			X
X	X	X	X
X		X	
x	X		X
Х	×	x	x
X	X	X	X
- •	•	- ·	**
X	X	×	
X	X	X	X
	X	X	
X	^	^	X
V	V	V	X
X	X	X	X
X	X	X	X

Samples Χ Х Χ х Χ Χ Χ Х Χ Χ Χ X Х Χ Х Х Х Х Х Х Χ Χ Х Χ Χ Χ Χ Χ Χ Χ Χ Χ Х Х Χ Χ Х Х Х Χ Χ Χ Χ Χ Х Χ Х Χ Χ Χ Χ Χ Χ Χ Χ Χ Х Х Χ Χ Χ Χ X X Х X Χ Χ Х X Х Х Χ Х Х Х х Χ Х Χ X X Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Χ Х X х х Χ Χ Χ Х Χ Χ Χ Χ Χ Χ Х Χ Χ Χ X Х Х Χ Χ Χ Χ X Х Х Х Χ X Х Х Χ Χ Χ Х Χ X Х Х Х Χ Χ Χ Χ Χ Χ Х Χ Х X Х Х Χ Χ Χ Χ Χ Χ Χ Х Х Х Χ Х Х Χ Χ Χ Х Χ х Χ Χ Χ Χ Χ х Х Х Χ

			Samples	
X	X	×	X	
X	X		X	
X	X	X	X	
X	X	X	X	
X	X	X	X	
X	X	X	X	
X	X	X	X	
X	X	X	X	
X	X	X	X	
X	X	X	X	
X	X		X	
X	X	X	X	
Χ			X	
Х	X	X	Χ	

Samples			

Samples